

**US DEPARTMENT OF
DEFENSE (DoD) COMBINED
ACTIVE DUTY
EYE INJURY SUMMARY
CALENDAR YEAR 2009**

Approved for public release, distribution unlimited

2013



CY 2009 DEPARTMENT OF DEFENSE (DoD) COMBINED ACTIVE DUTY (AD) EYE INJURY REPORT SUMMARY

INTRODUCTION: In 2010 the Armed Forces Health Surveillance Center (AFHSC) and Tri-Service Vision Conservation and Readiness Program (TSVCRP) of the US Army Public Health Command (USAPHC) began development of an Annual Active Duty Military Eye Injury Summary that would detail cause and type of injury along with demographics of eye injuries (Age, Gender, Rank, Occupational Group).

The first edition of the summary and annual summaries back through calendar year 2000, were produced in the spring of 2011. An analysis of years 2000-2010 was published in the May 2011 Medical Surveillance Monthly Report (MSMR). The AFHSC also developed a Case Definition for Eye Injuries that details the code set and methodology used to develop the summaries. Both the MSMR Article and Case Definition for Eye Injuries are available on the AFHSC website: <http://afhsc.army.mil/home>.

This summary contains detailed data, along with a set of summary tables detailing Ambulatory and Hospitalization rates (per 1000 person-years) for Injury Group, Cause of Injury and Occupational Group. Summary tables for Deployment-Associated Eye Injuries detailing frequency of Eye Injuries by Type of Injury and Occupational Group are also provided. Occupational Group data is for Enlisted members only. Deployment-Associated Eye Injuries are presented without regard to Ambulatory or Hospitalized status.

As one of the underlying goals of the summary is to make eye injury surveillance data accessible and useable, individual annual eye injury summaries for all years and all services (Combined DoD, Army, Navy, Air Force, Marine Corps and Coast Guard) are posted on the USAPHC public website.

For questions or additional information regarding the summaries please contact the TSVCRP:

By Email: usarmy.apg.medcom-phc.mbx.dcpm-tri-service-optometry@mail.mil

Telephone: 410-436-2714 FAX: 410-436-1325

Additional program information and educational materials can be found at: <http://dodvision.com/> and the USAPHC Public Website at: <http://phc.amedd.army.mil/Pages/default.aspx>

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INJURY CODE GROUP DETAILS: The following code groupings were used to develop the summary. Additional details may be found in the AFHSC Case Definition available at: <http://afhsc.army.mil/home>.

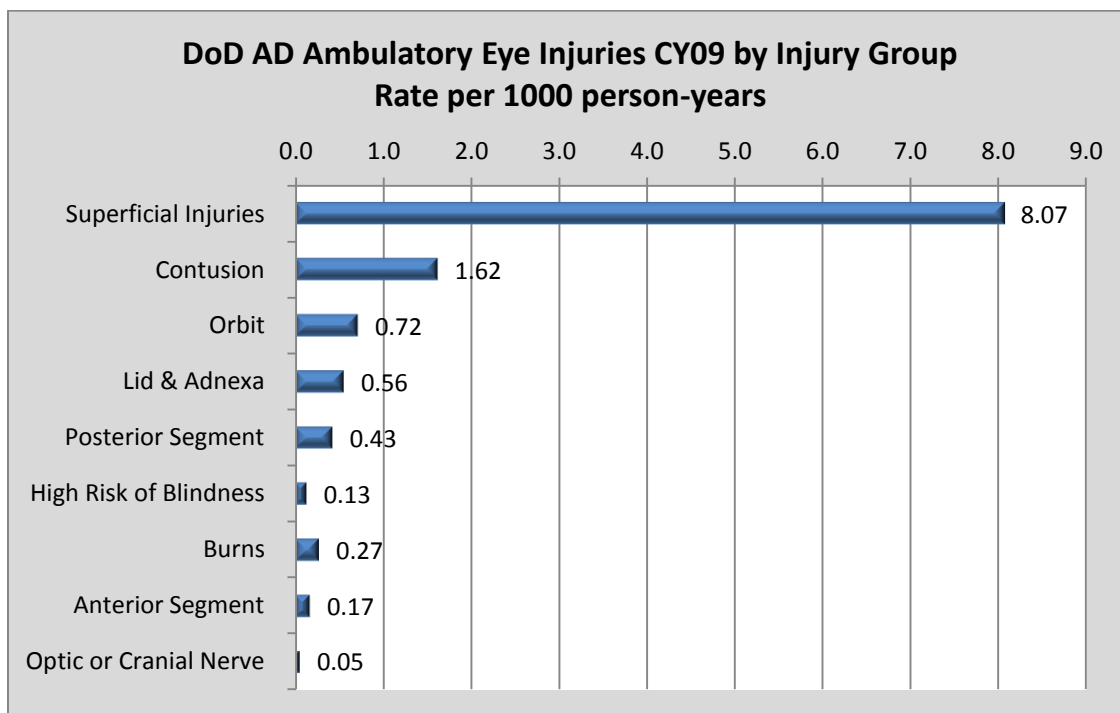
- 1) **Superficial:** all 918 series codes (superficial injury of eye and adnexa) and all 930 series codes (foreign body on external eye).
- 2) **Contusion:** all 921 series codes (contusion of eye and adnexa).
- 3) **Orbit:** All 802 series codes (fracture of face bones), 870.3 and 870.4 (penetrating wound of orbit without and with foreign body) and 376.32 (orbital hemorrhage).
- 4) **Lid/adnexa:** all 870 series codes (open wound of ocular adnexa) with the exception of 870.3 and 870.4 (see orbit above).
- 5) **Posterior segment:** 362.81 (retinal hemorrhage), all 361.0x series codes (retinal detachment with retinal defect), 363.61 (choroidal hemorrhage, unspecified), 363.63 (choroidal rupture), 379.23 (vitreous hemorrhage), 360.00 and 360.01 (purulent and acute endophthalmitis).
- 6) **High risk of blindness:** all 871 series codes (open wound of eyeball).
- 7) **Burns:** all 940 series codes (burn confined to eye and adnexa) as well as all 940.x2 codes (burns to eye with other parts of face, head and neck).
- 8) **Anterior segment:** 364.41 (hyphema), 366.21 and 366.22 (localized and total traumatic cataract), and 364.76 (iridodialysis).
- 9) **Optic/cranial nerve:** 950.0 (optic nerve injury), 950.1 (injury to optic chiasm), 950.9 (injury to optic nerve and pathways, unspecified), 951.0 (injury to oculomotor nerve), 951.1 (injury to trochlear nerve) and 951.3 (injury to abducens nerve).

DETAILS FOR TOTAL NUMBERS: Because patients may have been coded with more than one injury group or cause of injury, the sum of cases by injury group and the sum of cases by causes of injury will be greater than the total number of patients.

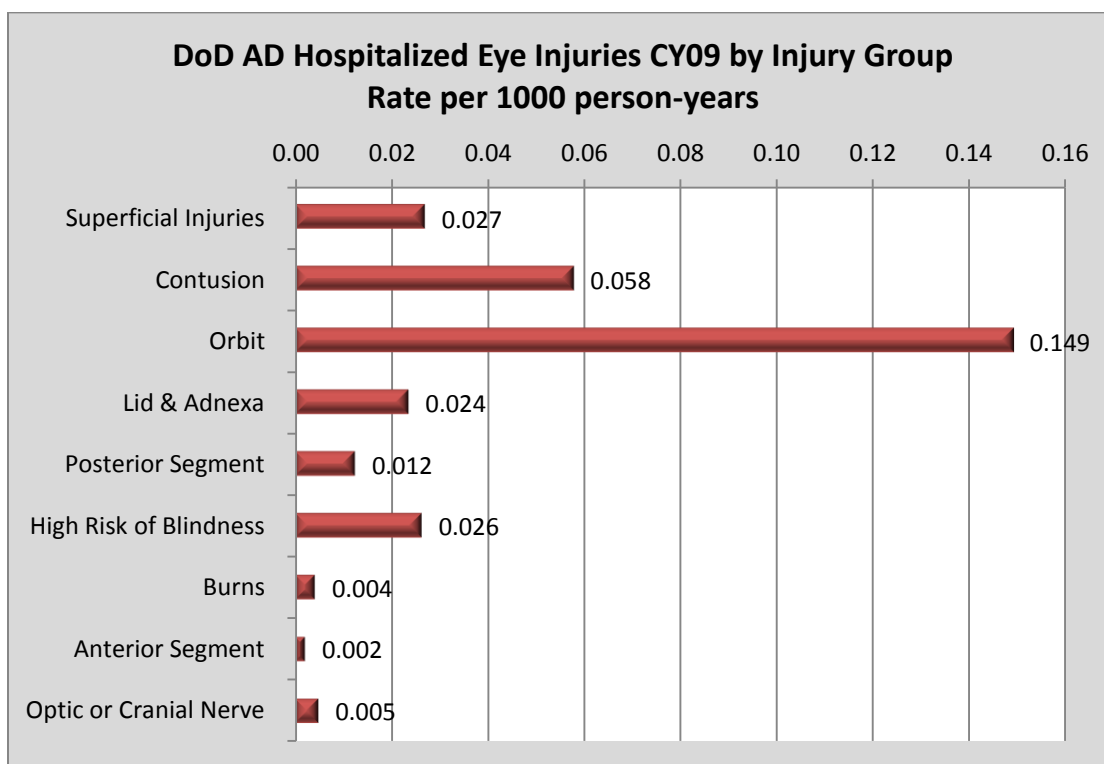
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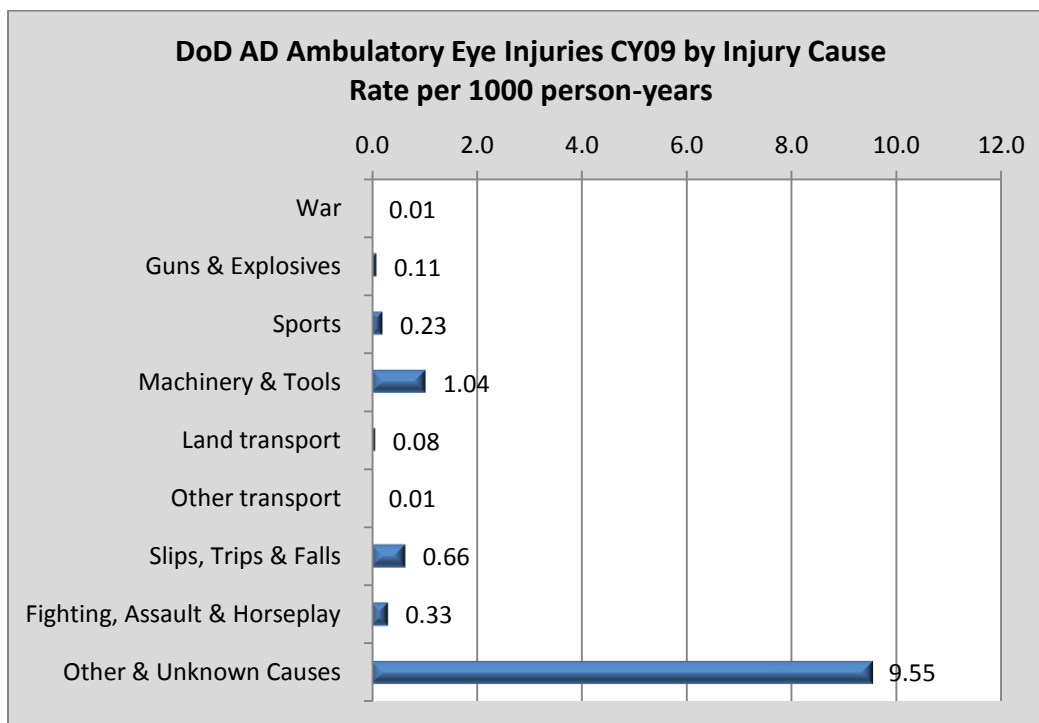
Please note the difference in scale between Ambulatory and Hospitalized graphs



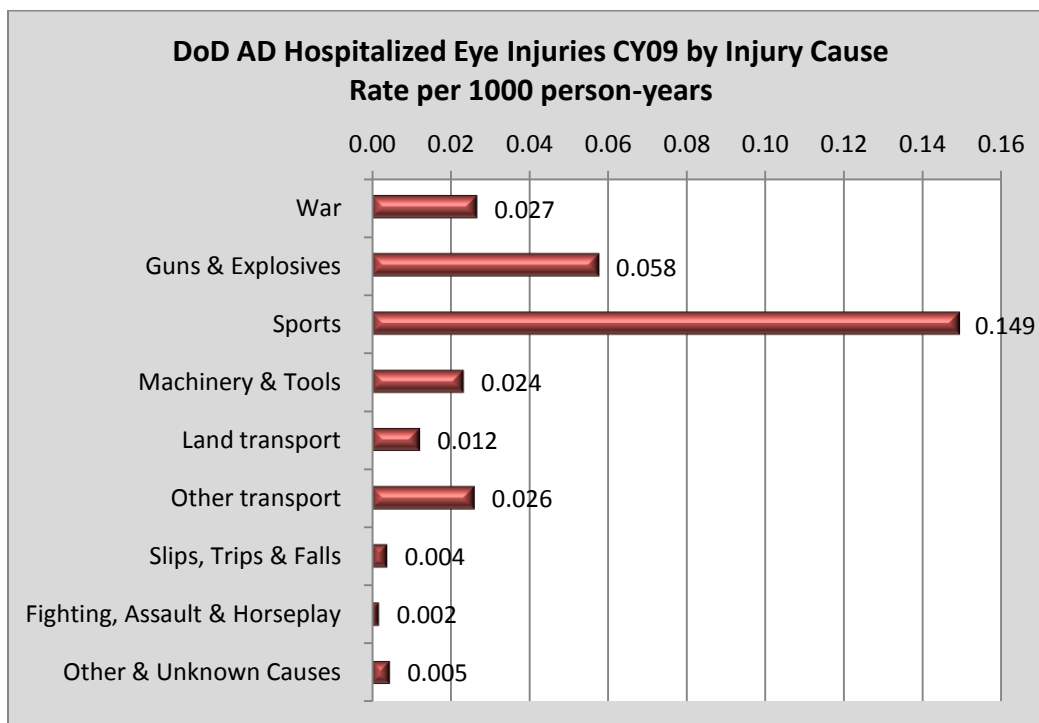
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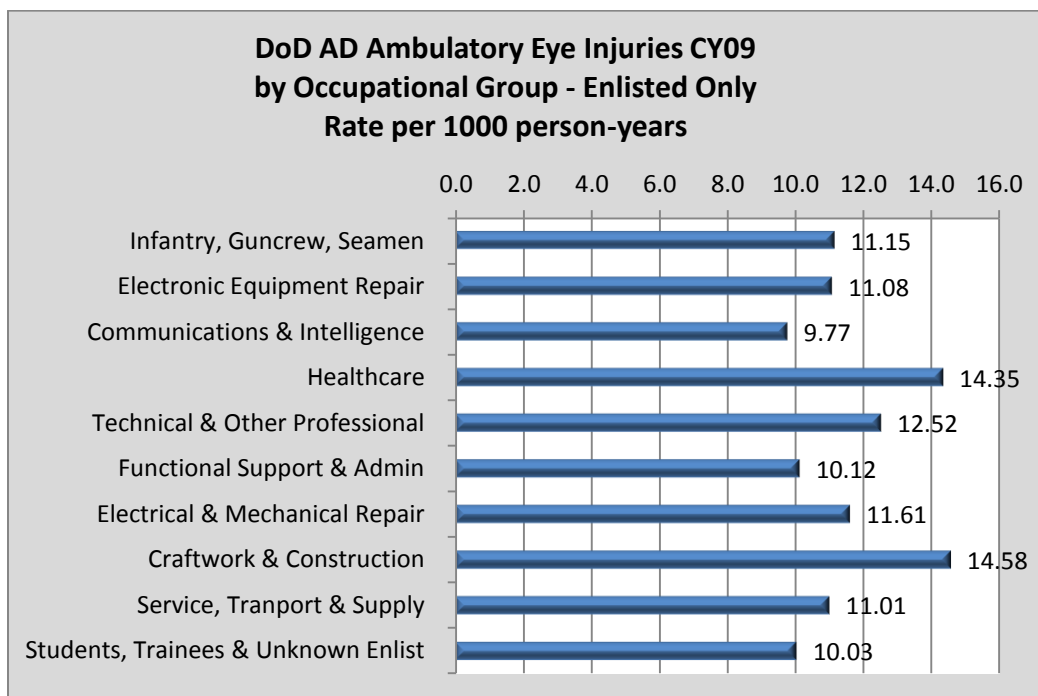
Please note the difference in scale between Ambulatory and Hospitalized graphs



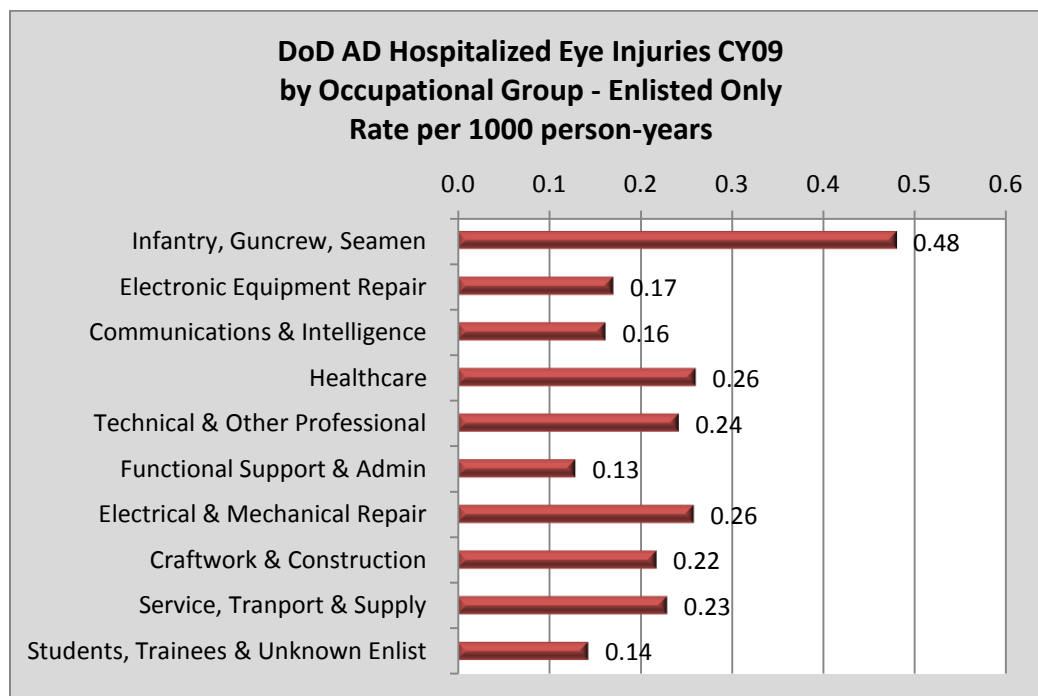
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Please note the difference in scale between Ambulatory and Hospitalized graphs

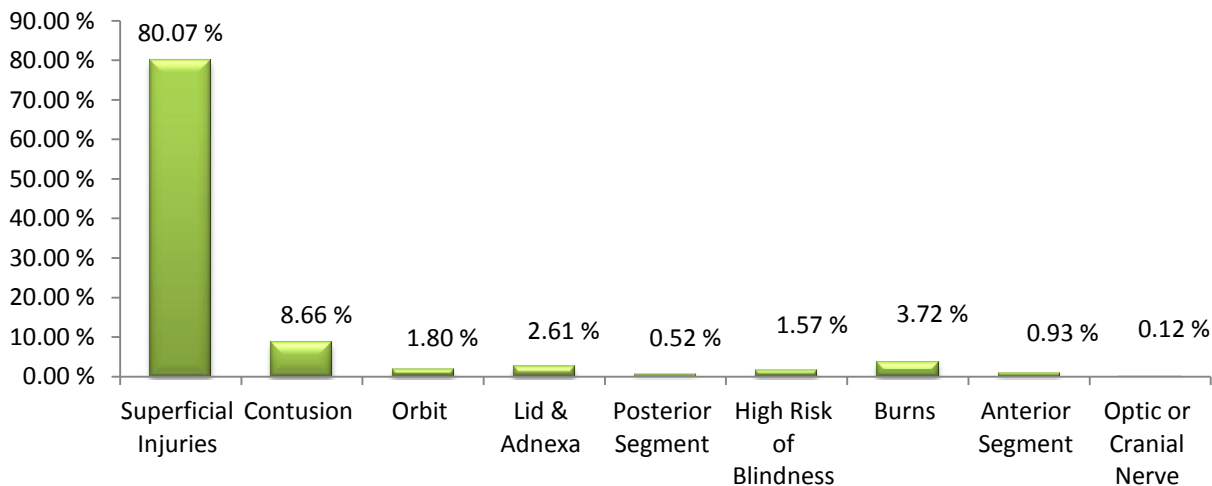


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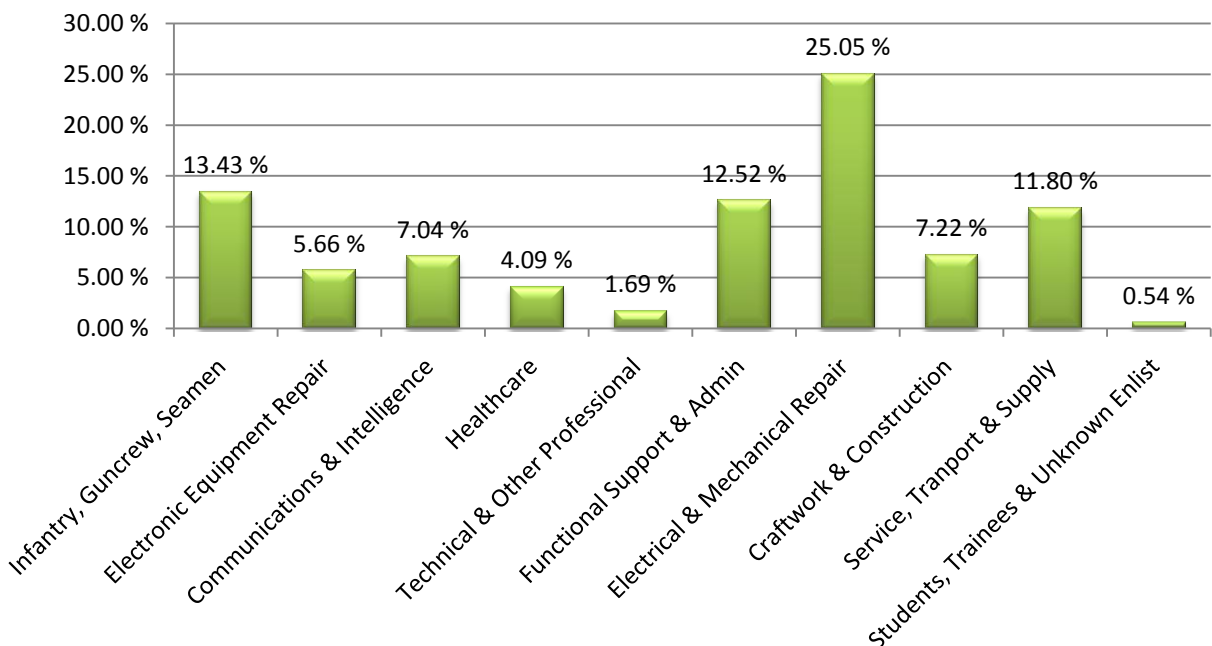


CY 2009 DEPARTMENT OF DEFENSE (DoD) COMBINED ACTIVE DUTY (AD) EYE INJURY REPORT SUMMARY

DoD AD Deployment Associated Eye Injuries CY09
By Injury Group
Percent of Total



DoD AD Deployment Associated Eye Injuries CY09
by Occupational Group- Enlisted Only
Percent of Total



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CY 2009 DEPARTMENT OF DEFENSE (DoD) COMBINED ACTIVE DUTY (AD) EYE INJURY REPORT SUMMARY

		2009											
		Ambulatory MTF Visits				Deployment-Associated Healthcare				Hospitalizations			
		Primary		All Diagnoses		Primary		All Diagnoses		Primary		All Diagnoses	
		Count	Rate¹	Count	Rate	Count	% total¹	Count	% total¹	Count	Rate	Count	Rate
ALL ACTIVE COMPONENT													
	Total	12,985	8.98	16,009	11.07	1,566	100.00	1,661	100.00	89	0.06	325	0.22
	Superficial Injuries	9,874	6.83	11,669	8.07	1,309	80.85	1,378	80.07	3	0.00	39	0.03
	Contusion	1,746	1.22	2,325	1.62	134	8.28	149	8.66	24	0.02	83	0.06
	Orbit	687	0.48	1,033	0.72	25	1.54	31	1.80	69	0.05	215	0.15
	Lid & Adnexa	648	0.45	801	0.56	45	2.78	45	2.61	11	0.01	34	0.02
	Posterior Segment	381	0.26	618	0.43	5	0.31	9	0.52	9	0.01	18	0.01
	High Risk of Blindness	146	0.10	189	0.13	24	1.48	27	1.57	22	0.02	38	0.03
	Burns	355	0.25	394	0.27	62	3.83	64	3.72	1	0.00	6	0.00
	Anterior Segment	192	0.13	246	0.17	13	0.80	16	0.93	2	0.00	3	0.00
	Optic or Cranial Nerve	56	0.04	79	0.05	2	0.12	2	0.12	3	0.00	7	0.00
	Male	11,052	8.91	13,652	11.01	1,318	84.16	1,398	84.17	86	0.07	305	0.25
	Female	1,933	9.41	2,357	11.47	248	15.84	263	15.83	3	0.01	20	0.10
	War	10	0.01	16	0.01	not assessed²				12	0.01	37	0.03
	Guns & Explosives	148	0.10	157	0.11					20	0.01	62	0.04
	Sports	287	0.20	326	0.23					9	0.01	10	0.01
	Machinery & Tools	1,425	0.99	1,505	1.04					9	0.01	12	0.01
	Land transport	74	0.05	119	0.08					12	0.01	38	0.03
	Other transport	9	0.01	9	0.01					2	0.00	4	0.00
	Slips, Trips & Falls	840	0.58	949	0.66					9	0.01	25	0.02
	Fighting, Assault & Horseplay	324	0.22	471	0.33					22	0.02	62	0.04
	Other & Unknown Causes	10,968	7.59	13,802	9.55					49	0.03	193	0.13
ENLISTED (all diagnoses combined)													
	Enlisted	11,084	9.16	13,626	11.27	1,396	89.14	1,479	89.04	87	0.07	303	0.25
	<20	829	6.80	1,031	8.46	48	3.07	52	3.13	4	0.03	20	0.16
	20-24	4,227	9.13	5,268	11.38	645	41.19	680	40.94	38	0.08	157	0.34
	25-29	2,865	10.33	3,473	12.52	356	22.73	372	22.40	23	0.08	68	0.25
	30-34	1,417	9.05	1,720	10.98	155	9.90	165	9.93	12	0.08	24	0.15
	35-39	1,058	8.99	1,268	10.77	114	7.28	124	7.47	8	0.07	23	0.20
	>=40	688	9.44	866	11.88	78	4.98	86	5.18	2	0.03	11	0.15
	E0-E4	5,948	9.40	7,450	11.77	839	53.58	892	53.70	57	0.09	205	0.32
	E5-E9	5,136	8.91	6,176	10.71	557	35.57	587	35.34	30	0.05	98	0.17
	Infantry, Guncrew, Seamen	1,785	8.49	2,343	11.15	202	12.90	223	13.43	29	0.14	101	0.48
	Electronic Equipment Repair	861	9.18	1,039	11.08	88	5.62	94	5.66	5	0.05	16	0.17
	Communications & Intelligence	861	7.76	1,084	9.77	110	7.02	117	7.04	6	0.05	18	0.16
	Healthcare	945	11.74	1,155	14.35	65	4.15	68	4.09	6	0.07	21	0.26
	Technical & Other Professional	422	10.22	517	12.52	28	1.79	28	1.69	2	0.05	10	0.24
	Functional Support & Admin	1,464	8.23	1,801	10.12	194	12.39	208	12.52	5	0.03	23	0.13
	Electrical & Mechanical Repair	2,366	9.87	2,784	11.61	398	25.42	416	25.05	16	0.07	62	0.26
	Craftwork & Construction	550	11.99	669	14.58	115	7.34	120	7.22	2	0.04	10	0.22
	Service, Transport & Supply	1,239	8.89	1,534	11.01	187	11.94	196	11.80	13	0.09	32	0.23
	Students, Trainees & Unknown Enlist	591	8.47	700	10.03	9	0.57	9	0.54	3	0.04	10	0.14
	Army	4,255	9.31	5,588	12.23	799	51.02	854	51.41	42	0.09	142	0.31
	Navy	2,252	8.22	2,661	9.72	266	16.99	276	16.62	21	0.08	57	0.21
	Air Force	2,419	9.21	2,802	10.67	258	16.48	267	16.07	13	0.05	30	0.11
	Marine Corps	1,642	9.02	1,981	10.89	73	4.66	82	4.94	11	0.06	72	0.40
	Coast Guard	516	15.22	594	17.52	0	0.00	0	0.00	0	0.00	2	0.06
OFFICER (all diagnoses combined)													
	Officer	1,901	8.05	2,383	10.09	170	10.86	182	10.96	2	0.01	22	0.09
	<20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	20-24	207	7.96	268	10.31	15	0.96	17	1.02	0	0.00	2	0.08
	25-29	383	7.27	477	9.06	41	2.62	44	2.65	0	0.00	8	0.15
	30-34	386	8.18	469	9.94	33	2.11	34	2.05	1	0.02	5	0.11
	35-39	372	7.58	448	9.13	37	2.36	38	2.29	0	0.00	4	0.08
	>=40	553	9.03	721	11.78	44	2.81	49	2.95	1	0.02	3	0.05
	O0-O3,W0-W3	1,164	8.09	1,440	10.01	109	6.96	117	7.04	1	0.01	13	0.09
	O4-O10,W4-W5	737	7.99	943	10.22	61	3.90	65	3.91	1	0.01	9	0.10
	General/Flag Ofc & Executives	13	6.60	24	12.19	0	0.00	0	0.00	0	0.00	0	0.00
	Tactical Operations Off.	579	7.04	718	8.73	56	3.58	58	3.49	2	0.02	13	0.16
	Intelligence Off.	95	7.03	120	8.88	7	0.45	9	0.54	0	0.00	1	0.07
	Engineering & Maintenance Off.	260	8.25	335	10.63	38	2.43	39	2.35	0	0.00	2	0.06
	Healthcare Off.	352	9.73	442	12.22	18	1.15	20	1.20	0	0.00	3	0.08
	Scientists & Professional Off.	115	8.63	152	11.41	9	0.57	9	0.54	0	0.00	2	0.15
	Administrative Off.	111	7.29	148	9.73	19	1.21	19	1.14	0	0.00	0	0.00
	Supply & Logistics Off.	144	7.52	178	9.30	20	1.28	23	1.38	0	0.00	0	0.00
	Students, Trainees & Unknown Off.	232	10.07	266	11.55	3	0.19	5	0.30	0	0.00	1	0.04
	Army	721	8.00	962	10.67	120	7.66	125	7.53	0	0.00	8	0.09
	Navy	401	7.74	484	9.34	9	0.57	11	0.66	0	0.00	0	0.00
	Air Force	552	8.47	669	10.27	34	2.17	37	2.23	1	0.02	10	0.15
	Marine Corps	141	6.78	170	8.17	7	0.45	9	0.54	1	0.05	4	0.19
	Coast Guard	86	10.42	98	11.87	0	0.00	0	0.00	0	0.00	0	0.00

1. Rates are per 1,000 person-years.

2. Use of ICD-9-CM E-codes for "cause of injury" is largely incomplete for theater healthcare records and therefore omitted.

3. Person-time is not available for deployers so the proportion of the total number of diagnoses is shown.

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Prepared by Armed Forces Health Surveillance Center (AFHSC)

Source: Defense Medical Surveillance System (DMSS) as of 29-MAR-2011



**TRI-SERVICE
VISION
CONSERVATION
AND READINESS**